

OPTICAL POSITION MEASURING SYSTEM AND METHOD USING A  
LOW COHERENCE LIGHT SOURCE

ABSTRACT OF THE DISCLOSURE

An optical position measuring system (e.g., an interferometer) includes a superluminescent device (SLD) (e.g., a laser diode having at least one anti-reflective coated surface) and a detector. The SLD generates a light beam having a short coherence length (e.g., about 0.1 mm to about 0.5 mm, less than the optical path length of an optical element, and/or less than a spacing between optical elements). Through use of the short coherence length light beam, interference effects from spurious or ghost reflections that exist in conventional position measuring systems are substantially reduced or eliminated.

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